

575-101

*2849838

208300 007500 20
* DEC 11 2000

WC
087
USA

PROCESSING OPERATIONS CONTROL OMI PLANNING SHEET



Wad Number T6149-AD-R01	SITE VAB HB2ETCO	Elem CD T	End Item ET-93	DATE: 12/08/2000 TIME: 10:17:15
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Title: ET RECEIVING INSPECTION	Sub Element/Zone
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Project Work Order No.	Hazard: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	SFOC Safety N/A WC 126 USA DEC 11 2000	<input checked="" type="checkbox"/> Local Copy <input type="checkbox"/> Firing Room Copy
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Authorizing Document ET93	Material & Equipment: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	MICR Req'd <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	OMRS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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PERFORM THE FOLLOWING:

Pre-Ops Setups

Task	Operation Number	Seq	Steps	Task	Operation Number	Seq	Steps
N/A							

OPS Support

Task	Operation Number	Seq	Steps	Task	Operation Number	Seq	Steps
N/A							

Operating Instructions

Task	Seq	Steps	Task	Seq	Steps
01-07(ALL)					

Post Ops

Task	Operation Number	Seq	Steps
N/A			

Appendices

Task	Seq
A-D(ALL)	

Subtask WAD's

T5042.010

Planner LISA RUTKOWSKI WC 126 USA DEC 11 2000	Ext 0746	QC Closure	Date 6/6/01	Page 1 OF 1
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8

USA
VM
030

USA
VM
070

OMI TASK CLOSEOUT CHECKLIST

OMI No. <i>T6149 AD</i>	Run No. <i>1</i>	Task Control No. (TCN) <i>2849838-VA13</i>
Start Date <i>2-27-01</i>	Completion Date <i>6/6/01</i>	Closure Date <i>6/6/01</i> 

	QC/Eng.	Date
1. Deviation Index: Verify total number of deviations agree with index. Verify entry is correct into OMI.		<i>6/6/01</i>
2. Constraints List: Verify all constraints are accepted by QC or waived by Engineering. Verify that constraints list is complete and closed.		
3. IPR's: Verify that all IPR's are closed or upgraded to problem reports or dispositioned as no constraint to OMI closure and incorporated in central IPR system and a copy of the central IPR sort attached.		
4. Verify that material and equipment requirement list enclosed (if applicable).		
5. OMI: Verify that all pages or verification sheets are completed, stamped, and dated in the lower left/right hand corners.		
6. OMI: Verify that all miscellaneous documents/procedures have sequence number referenced and stamped; e.g., photos, sample results, etc.		
7. Planned task/OMI satisfactorily completed. OPR: <i>R Brewer</i> <i>06-05-01</i>		<i>6/6/01</i>
8. LSS review prior to closure for CIL OMI's. MMC _____ Thiokol _____		<i>6/6/01</i>

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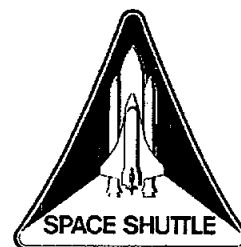
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*****
*
*               ET RECEIVING INSPECTION
*
*****
* EFFECTIVITY          CATEGORY: F
*                      NF-T
*   CENTER:      KSC
*   SYSTEM:      ETM
*   SITE: VAB HB-2/-4
*   VEHICLE:    ET-97 AND SUBS
*   FLOW: STS-88 AND SUBS
*   DESIGN CENTER CONCURRENCE: MSFC
*****
```

**THIS DOCUMENT DOES NOT
CONTAIN HAZARDOUS OPERATIONS**



National Aeronautics and Space Administration

Kennedy Space Center



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REVISION RECORD PAGE

REV-CHANGE	DATE	REASON	PAGES AFFECTED	EFFECTIVITY
Z	: 08-29-96	: 40/USK711: ALL		: ET-83&SUBS
AA	: 08-20-97	: 41/USK206: ALL		: ET-83&SUBS
AB	: 03-18-98	: 42/USK206: ALL		: ET-97&SUBS
AC	: 05-12-99	: 43/USK206: ALL		: ET-83&SUBS
	:	: FT	:	:
AD	: 06-28-00	: 44/USK206: ALL		: ET-83&SUBS
	:	:	:	:

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OBJECTIVE

TO PROVIDE NECESSARY INSTRUCTIONS TO PERFORM RECEIVING INSPECTION ON EACH EXTERNAL TANK (ET), ITS ASSOCIATED SHIP-LOOSE HARDWARE AFTER ARRIVAL AT KSC.

DESCRIPTION

THIS OMI WILL BE WRITTEN IN TWO SECTIONS WHICH WILL PROVIDE INSTRUCTIONS FOR RECEIPT AND INSPECTION OF SHIP-LOOSE HARDWARE AND ACCOMPANIED DOCUMENTATION. THIS OMI WILL ALSO PERFORM INSPECTION OF EXTERNAL TANK (ET) AFTER IT IS SECURED IN THE CHECKOUT CELL.

SHIP-LOOSE HARDWARE AND DOCUMENTATION CHECK

ET SHIP-LOOSE HARDWARE WILL BE UNPACKAGED AND INSPECTED FOR IDENTIFICATION AND SHIPPING DAMAGE.

DD-250 DOCUMENTATION WILL BE ROUTED TO QUALITY RECORD CENTER WHERE IT WILL BE STATUSSED AND REVIEWED.

ET RECEIVING INSPECTION

A PREREQUISITE FOR INSPECTION OF ET PRIOR TO BARGE OFF-LOAD, MOVE TO VAB AND ET POSITIONING IN CHECKOUT CELL. THIS PRELIMINARY INSPECTION WILL BE ACCOMPLISHED PER T5002 "ET OFF-LOAD, MOVE AND SECURE IN CHECKOUT CELL".

AN INSPECTION WILL BE PERFORMED FOR VISIBLE DAMAGE AFTER ET IS SECURED IN CHECKOUT CELL AND WILL INCLUDE:

TPS - VISUAL INSPECTION ONLY

ELECTRICAL CONNECTIONS, CONDUITS, CABLING HARNESSSES, AND HARDWARE INTERFACES.

PROPULSION SYSTEM COMPONENTS, LO2/LH2

EXPOSED SURFACES OF ET FOR DINGS, DENTS, CORROSION OR WELD CRACKS.

MECHANICAL AND STRUCTURAL INTERFACES SUCH AS FWD SRB ATTACH POINTS.

COMPONENTS OF HARDWARE THAT ARE CLOSED OUT FOR FLIGHT WILL NOT BE DISTURBED TO FACILITATE THIS INSPECTION.

5-11-99

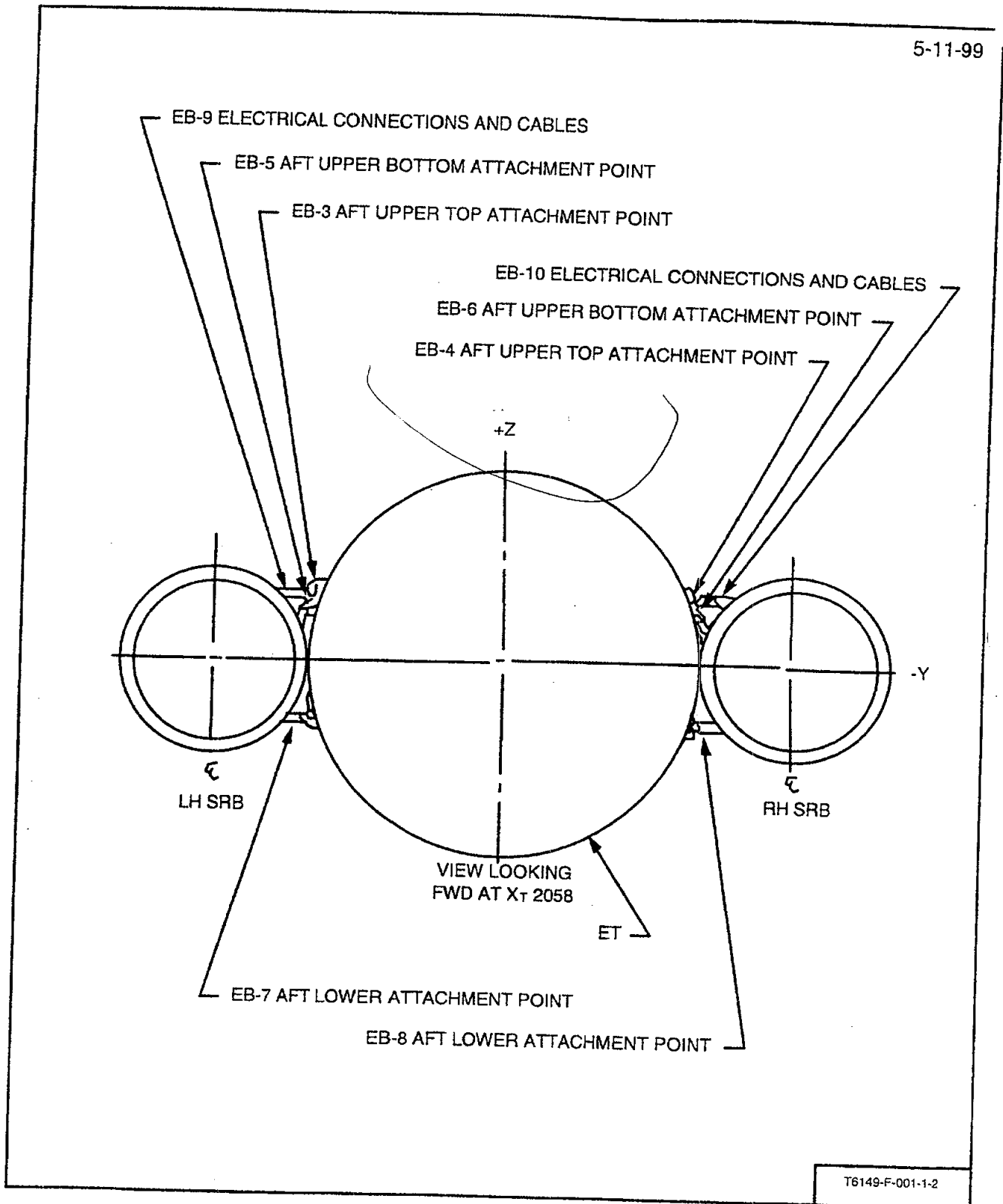
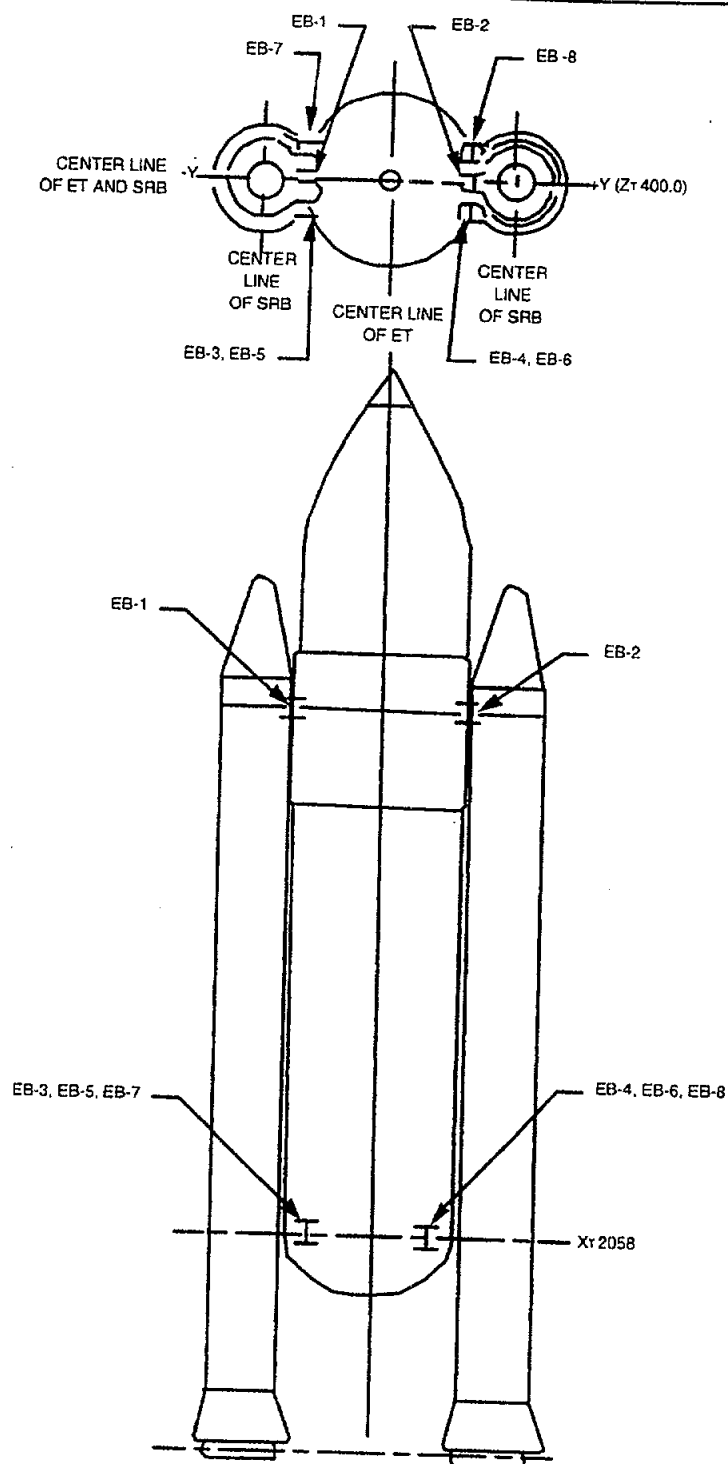


FIGURE 1 - ET ATTACH POINTS (SHEET 1 OF 2) (FOR REFERENCE ONLY)

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T6149-F-001-2-2

FIGURE 1 - ET ATTACH POINTS (SHEET 2 OF 2) (FOR REFERENCE ONLY)

3/15/95

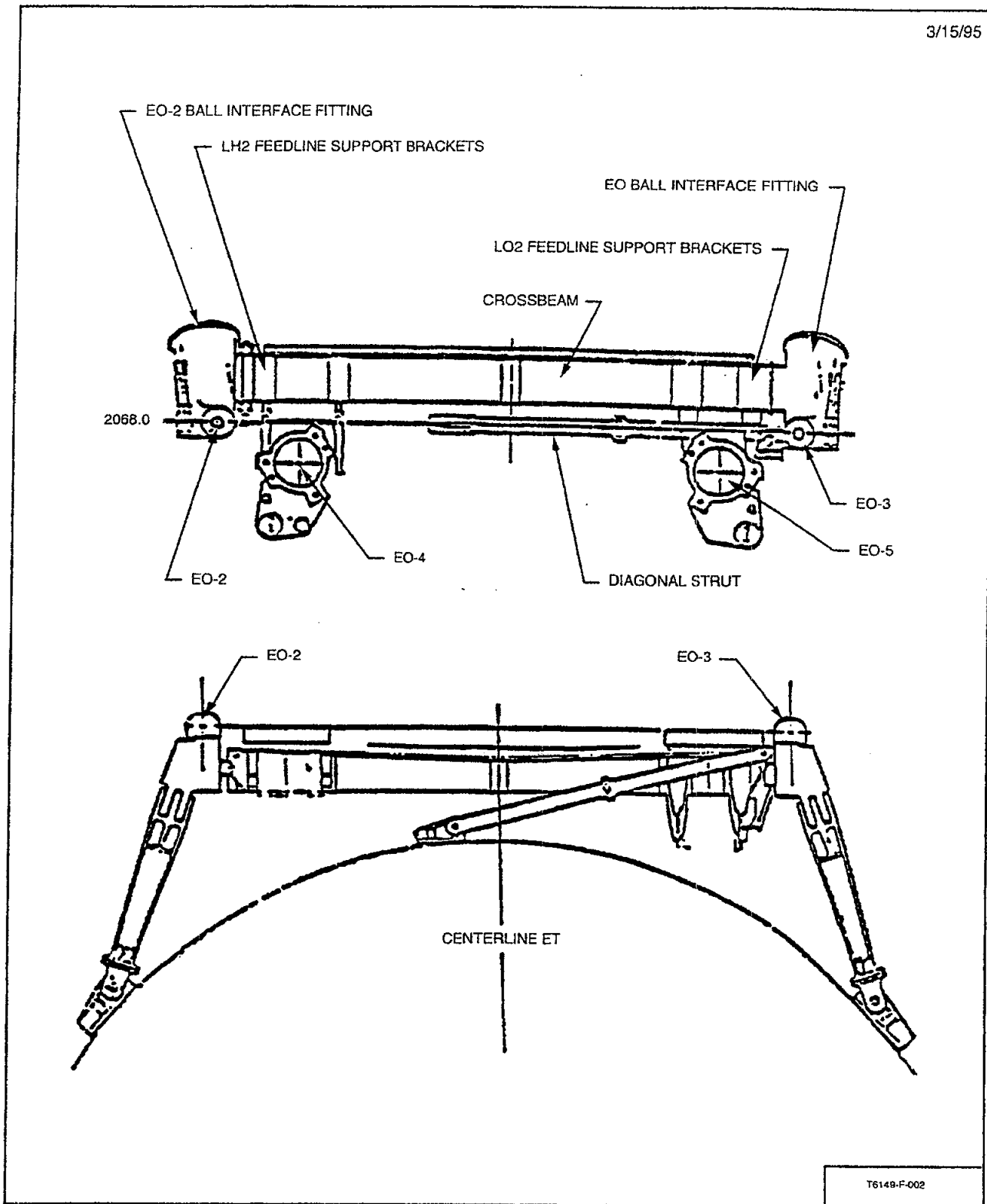


FIGURE 2 - ET/ORBITER AFT INTERFACE ATTACH XT2058
(FOR REFERENCE ONLY)

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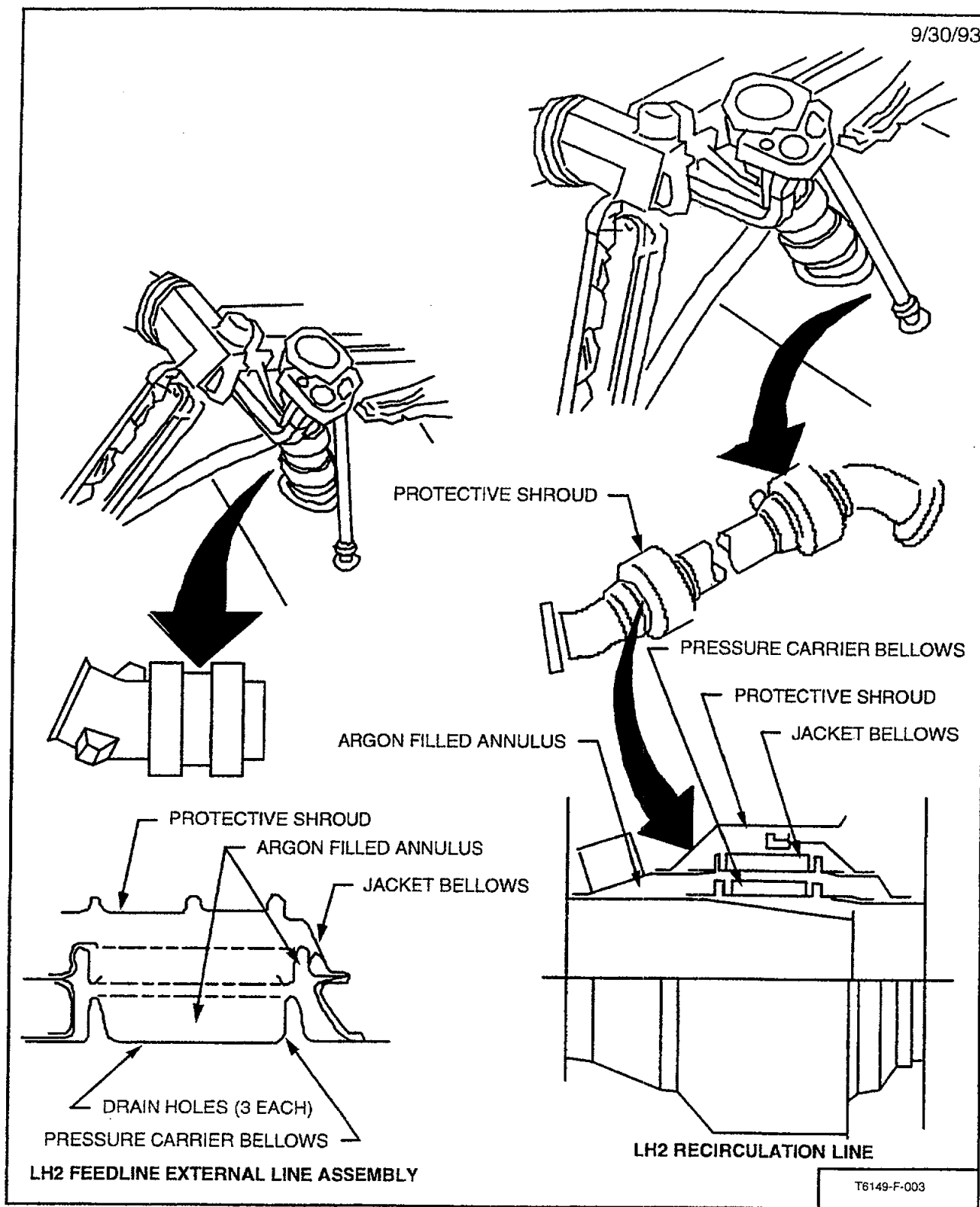


FIGURE 3 - LH2 FEEDLINE EXTERNAL LINE ASSEMBLY AND
LH2 RECIRCULATION LINE (FOR REFERENCE ONLY)

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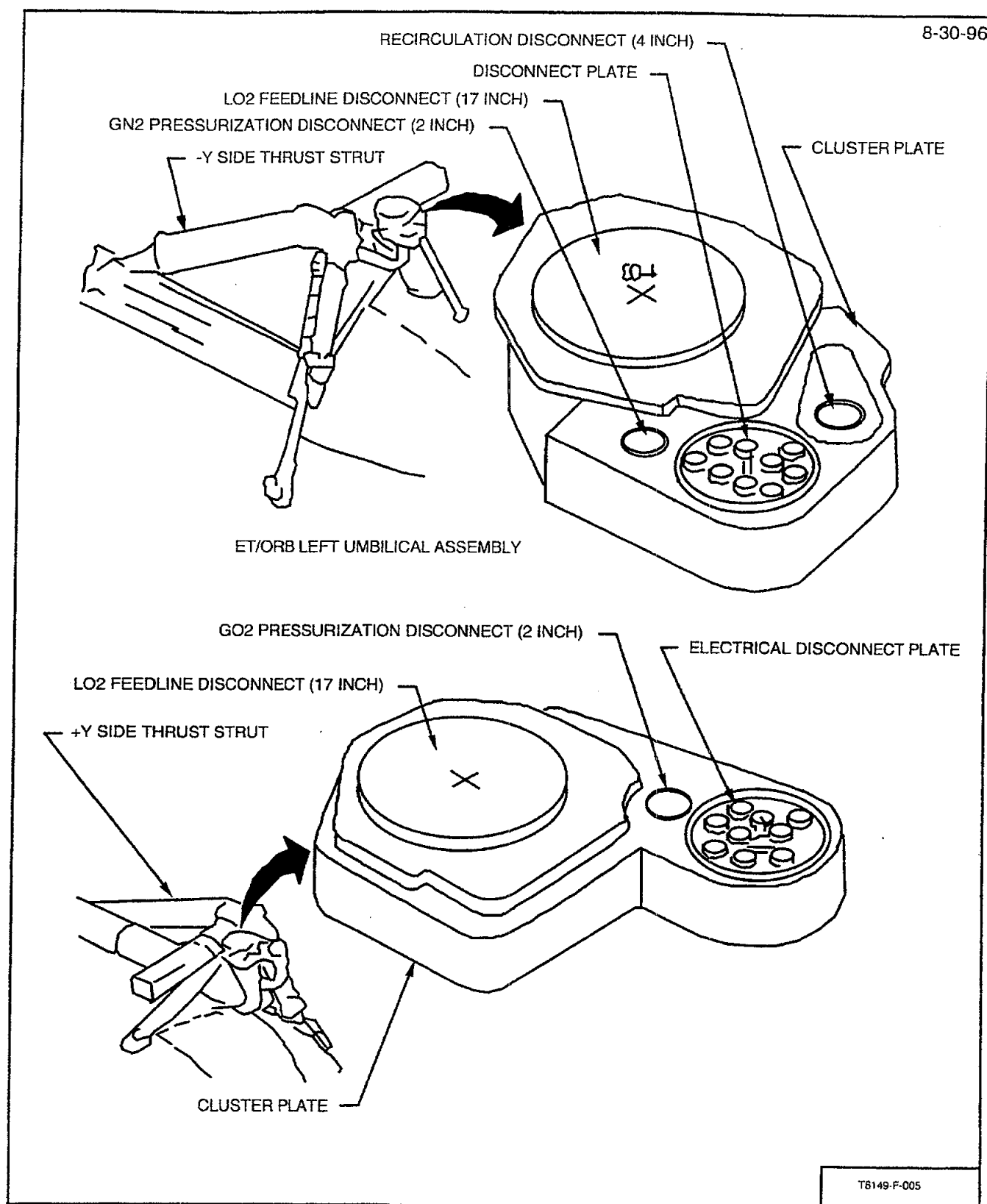
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FIGURE 5 - ET/ORBITER RIGHT UMBILICAL ASSEMBLY (FOR REFERENCE ONLY)

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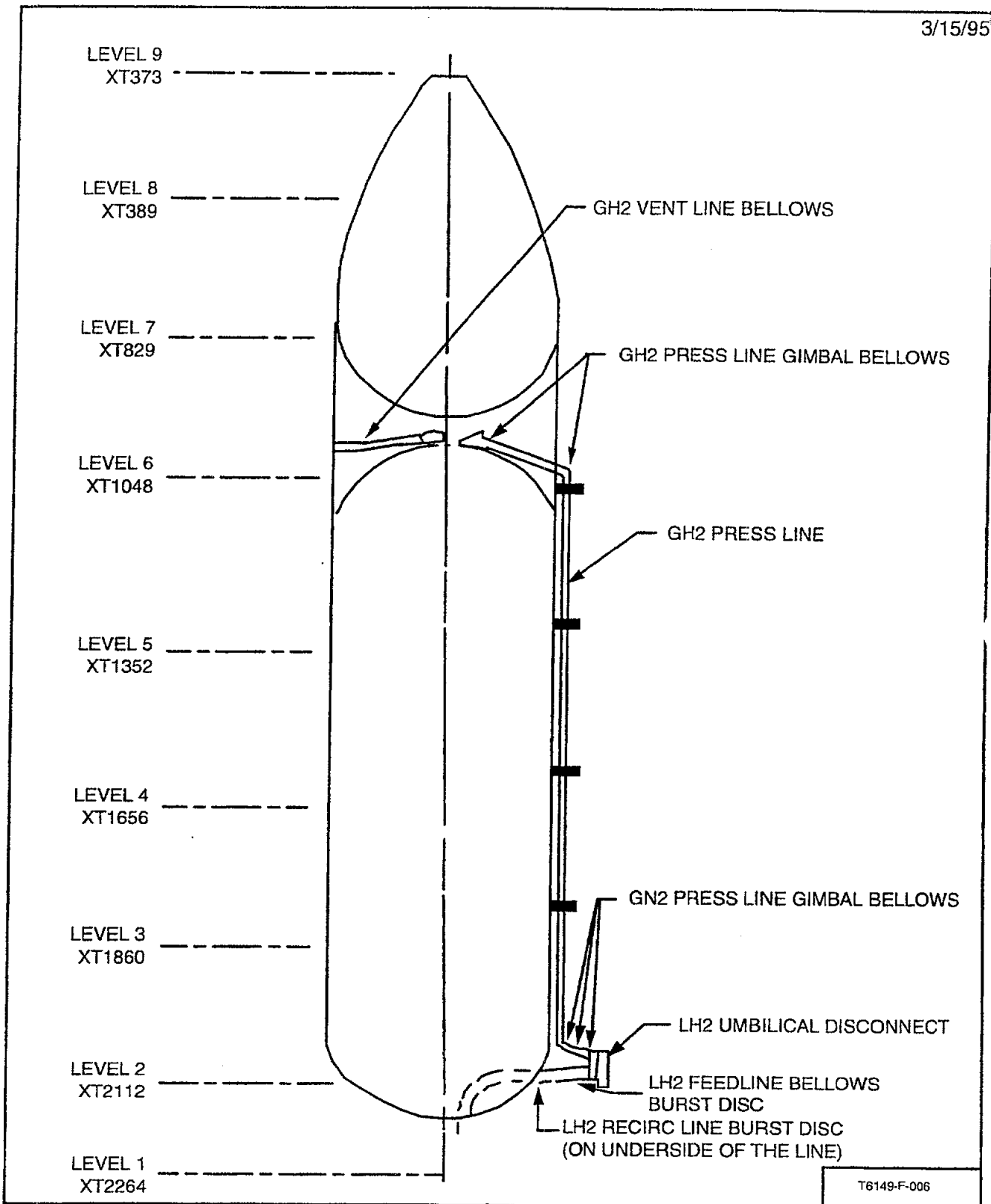


FIGURE 6 - GH2 PRESS LINE (FOR REFERENCE ONLY)

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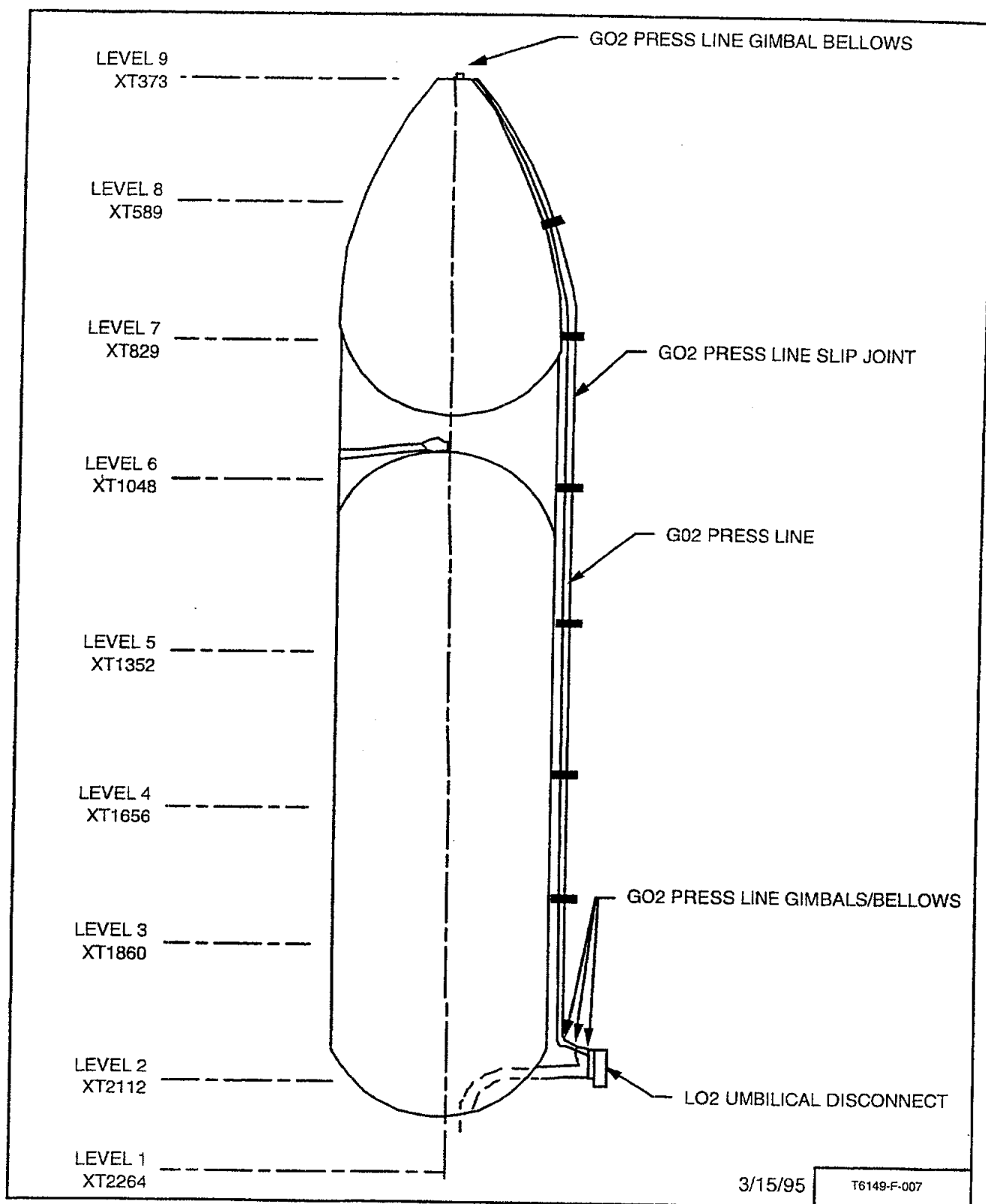
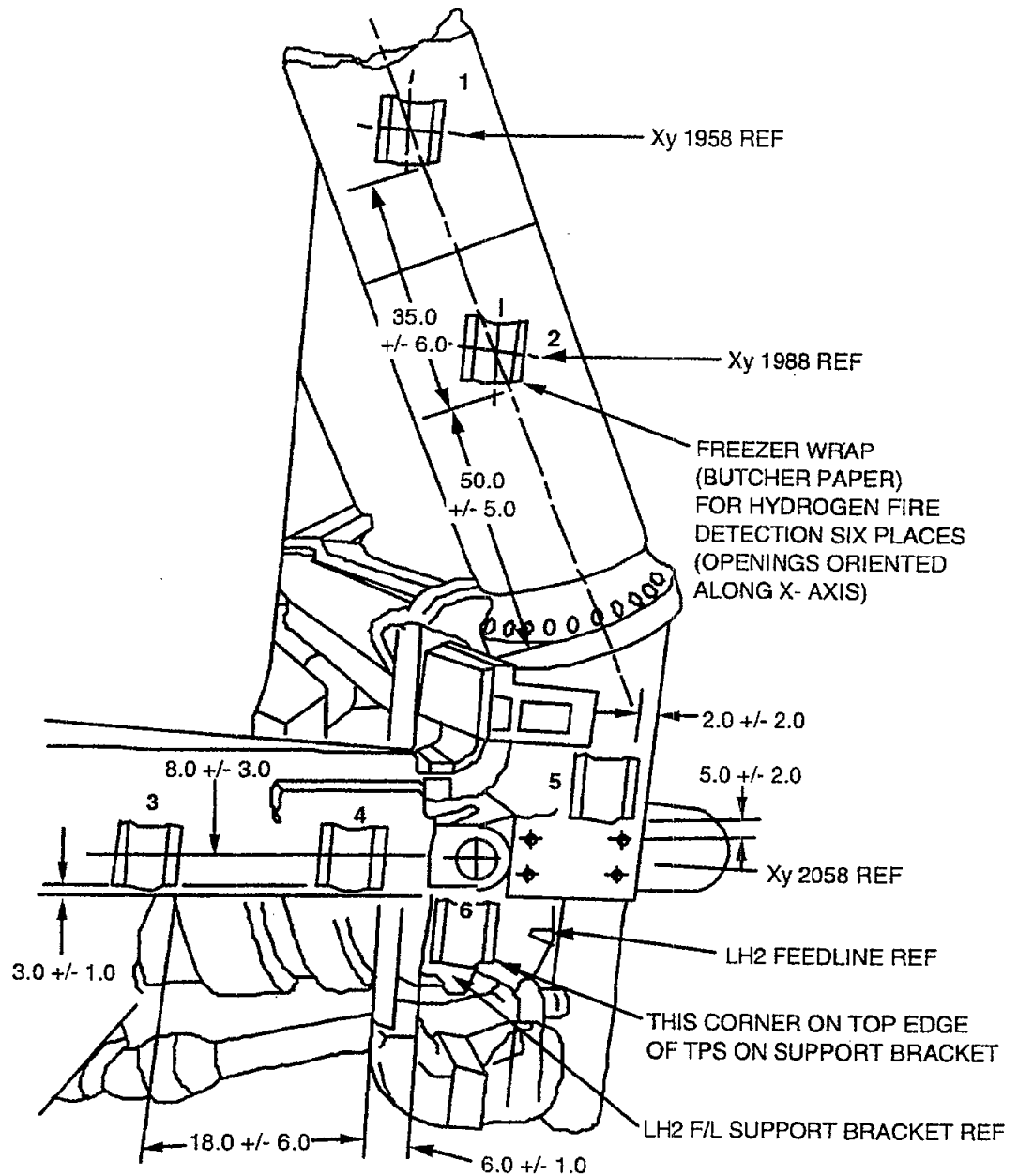
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FIGURE 7 - L02 UMBILICAL (FOR REFERENCE ONLY)

1-5-96



T6149-F-008

FIGURE 8 - INSTALLATION AREA DESIGNATIONS (FOR REFERENCE ONLY)

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-HOURS-

				1	1	1	1	1	2	2	2	2	2	3	3	3
2	4	6	8	0	2	4	6	8	0	2	4	6	8	0	2	6

GENERAL

NNNN INSPECTION OF ET SHIP-LOOSE (SEQ 01)

NN LEVEL 1 INSPECTION (SEQ 02)

NNNNNN LEVEL 2 INSPECTION (SEQ 03)

NNNNNN LEVEL 6 INSPECTION (SEQ 04)

NNN LEVEL 7 INSPECTION (SEQ 05)

NNN LEVEL 9 INSPECTION (SEQ 06)

NNNNNNNN TRANSFER ITEMS FROM ADP (SEQ 07)

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SECTION I
INFORMATION

1.1 REFERENCED INSTRUCTIONS

1.1.1 DOCUMENTS

NUMBER -----	REV ---	TITLE -----
GSOP 5400	LI	GROUND SAFETY OPERATING PROCEDURES
KHB 1710.2	LI	KSC SAFETY PRACTICES HANDBOOK (KSC)
KSC-4-326	LI	RED STREAMER INVENTORY LOG (KSC)
KSC-4-327	LI	RED STREAMER INSTALLATION RECORD (KSC)
NHB 5300.4	LI	SAFETY, RELIABILITY, MAINTAINABILITY AND QUALITY PROVISIONS FOR THE SPACE SHUTTLE PROGRAM
QA-001(3)KV	LI	PROBLEM REPORTING AND CORRECTIVE ACTION (PRACA) SYSTEM (SFDC)

1.1.2 DRAWINGS

NUMBER -----	REV ---	TITLE -----
80900000016	LI	ACCEPTANCE CRITERIA FOR SURFACE DEFECTS ON ALUMINUM
80900000041	LI	EXTERNAL TANK PROTECTION REQUIREMENTS AND REMOVAL
80901009000	LI	PACK AND SHIP AND PLANNED WORK FOR LWT-1 AND UP
80901019008	LI	ET VENT AREAS AT KSC
80901019010	LI	ET POST BUILD ACCEPTANCE AND IN-PROGRESS REWORK REQUIREMENTS MANUAL - OFFSITE
80911009100	LI	ASSEMBLY - BOLT ABSORBER
80911009101	LI	BOLT CATCHER, ET/SRB FWD - PACK AND SHIP

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80911009110	LI	FAIRING KIT, ET/SRB AFT - MAF PACK AND SHIP
80911009310	LI	FAIRING AND HARDWARE INSTL, ET/SRB
80921009109	LI	PRESSURIZATION SYSTEM INSTALLATION - MAF PACK AND SHIP
80931019009	LI	POST DD 250 OFF SITE PACK AND SHIP
80971029440	LI	TPS CLOSEOUT - OFFSITE
80971028450	LI	TPS CLOSEOUT - OFFSITE
80971078443	LI	TPS CLOSEOUT - OFFSITE
80971068434	LI	FOAM CLOSEOUT, LO2 AND LH2 UMB CABLE TRAY, OUTBOARD SUPPORT TO X-BEAM, AND RIGHT HAND UMB INTERFACE HDW, BLDG 420

1.1.3 SUPPORTING SUBTASKS





SUBTASK NUMBER -----	SUBTASK TITLE/ FUNCTION TO BE PERFORMED -----	CALLING SEQ-STEP -----
T5042.010	MOLD IMPRESSION APPLICATION AND EVALUATION	01-001 04-004

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1.3 SPECIAL TOOLS, EQUIPMENT AND MATERIALS

1.3.1 MATERIALS

ISSUE/ RETURN	PART NO.	NOMENCLATURE	AVAIL	MAX KIT	QTY	FUNCTION
___/___	8305-00-519- 3144	RYMPLE CLOTH (UI=ROLL)	06/06/01 	1	1	OI-01
					1	OI-04
___/___	932000K84495	TAPE (UI=ROLL)		1	1	OI-03
___/___	MMC02302005	MARKER, STAEDTLER LUMNOCOLOR 317 (UI=EACH)		1	1	OI-02
					1	OI-03
					1	OI-04
					1	OI-05
					1	OI-06
					1	OI-07
___/___	MMS J414A	TAPE, POLYETHYLENE PRESSURE SENSITIVE (UI=ROLL)	06/06/01 	1	1	OI-04



06/06/01

* SUPPLIED BY QC

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1.4 SUPPORT TOOLS, EQUIPMENT AND MATERIALS

1.4.5 PHOTOGRAPH

ITEM	LOCATION	CAMERA	FPS	FILM	FIX/TRK	TIME	INTERVAL
----	-----	-----	---	-----	-----	-----	-----
8X10 COLOR CELL	ET C/O	35MM	NA	35MM	NA	STILL	A/R

1.4.11 DATA DISPOSITION

DATA DESCRIPTION	OUTPUT FORM	DISTRIBUTION	QUANTITY ORIG/CYS	RECIPIENT	TIME REQD
-----	-----	-----	-----	-----	-----
DISCREPANCY ON ET	PHOTO	PHOTO COORDINATOR	4 EACH	PHOTO COORDINATOR	10WD

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1.6 SAFETY REQUIREMENTS

1.6.1 HAZARDS

NONE

1.6.2 REQUIREMENTS

ALL HAND TOOLS AND EQUIPMENT WILL BE TETHERED WHERE
THE POSSIBILITY OF A FALLING OBJECT MIGHT CAUSE INJURY
TO PERSONNEL OR DAMAGE TO FLIGHT HARDWARE. TETHERS
SHALL BE DESIGNED AND ATTACHED IN SUCH A MANNER AS
TO MINIMIZE INTERFERENCE WITH THE TASK BEING PERFORMED.

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1.7 SPECIAL INSTRUCTIONS

1. NO OPEN ITEM REVIEW (OIR) MEETING IS REQUIRED FOR THIS OMI.
2. NO ET PLANNED WORK MAY BE PERFORMED UNTIL THE RECEIVING INSPECTION WORK IN THE CORRESPONDING LEVEL HAS BEEN COMPLETED.
3. AFTER SHIPPING PROTECTIVE COVERS ARE REMOVED, APPROPRIATE SEQUENCE OF THIS OMI WILL BE PERFORMED PRIOR TO PERFORMING WORK IN AREA.
4. GENERAL INSPECTION CRITERIA AND DEFINITION IS PROVIDED IN APPENDIX A, B AND C.
5. ALL ANOMALIES, (I.E. TPS, MECHANICAL, ELECTRICAL, ETC.), WHICH REQUIRE VERIFICATION TO A DRAWING, SPECIFICATION OR OMRS REQUIREMENT WILL BE RECORDED ON THE OBSERVATION WORKSHEET IN APPENDIX C. THE APPLICABLE SYSTEMS ENGINEERING GROUP WILL PROVIDE ASSISTANCE AND DOCUMENTATION TO QUALITY ASSURANCE FOR THE EVALUATION. RESULTS WILL BE RECORDED ON THE WORKSHEET BY THE END OF SHIFT WHEN POSSIBLE, AND NO LATER THAN THE NEXT WORKING SHIFT. ALL ANOMALIES DETERMINED TO BE PR/DR CONDITIONS WILL BE DOCUMENTED PER SPI QA-001 ASAP BY QC. ANOMALIES FOUND WHICH ARE OBVIOUS PR/DR CONDITIONS AND REQUIRE NO EVALUATION WILL NOT BE RECORDED ON THE OBSERVATION WORKSHEET. THE PR/DR WILL BE WRITTEN BY QUALITY ASSURANCE AFTER INSPECTION AND EACH ITEM IS RECORDED AT THE APPLICABLE SEQUENCE.
6. WHEN DOCUMENTING ANOMALIES, DESCRIBE ITEM BY TECHNICAL NAME OR AREA, AXIS IN DEGREES AND STATION NUMBER.
7. PRIOR TO POSITIONING OF WORK ACCESS PLATFORMS AROUND FLIGHT HARDWARE, A WALKDOWN OF THE AREA SHALL BE PERFORMED BY OPERATIONS PERSONNEL TO ENSURE: ALL LOOSE ITEMS HAVE BEEN SECURED OR REMOVED, ALL INTERFERENCES HAVE BEEN IDENTIFIED AND REMOVED, THERE ARE NO REASONS THAT PRECLUDE POSITIONING THE WORK PLATFORMS.
8. ADDITIONAL COPIES OF DATA SHEETS MAY BE ADDED WHEN PROVIDED SUPPLY IS EXHAUSTED.

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9. ENSURE THAT STRICT DISCIPLINE IS MAINTAINED IN RECORDING SERIAL NUMBERS OF ATTACHED "REMOVE BEFORE FLIGHT" STREAMERS IN BOTH THIS OMI AND IN TIR LOG BOOK.
10. WHEN TEMPORARILY REMOVING PROTECTIVE COVERS TO PERFORM AN INSPECTION, RETAIN "REMOVE BEFORE FLIGHT" STREAMERS WITH COVERS AND VERIFY RED STREAMERS ATTACHED WHEN COVER IS INSTALLED.
11. PROTECTIVE COVERS THAT ARE NON-REUSABLE (PLASTIC, TAPE, ETC.) AND REMOVED PER THIS OMI SHALL BE DISCARDED.
12. PERFORMANCE OF SEQUENCES OF THIS OMI IS A FUNCTION OF OPERATIONAL FLOW OF ET. THEREFORE, SEQUENCES OF THIS OMI MAY BE PERFORMED OUT OF ORDER AND IN ACCORDANCE WITH SPI (SP-519(2)K).
13. VISUAL AIDS, INCLUDING BINOCULARS, MAY BE USED FOR INSPECTIONS OF AREAS NOT ACCESSIBLE.
14. MOLD IMPRESSIONS MAY BE TAKEN ALONG WITH THE USE OF THE SURFACE DEFECTS ANALYZER EQUIPMENT FOR ANOMALIES FOUND ON EXTERNAL TANK BARE METAL SURFACES WHEN DOCUMENTED ON APPENDIX C OBSERVATION WORKSHEET. THIS INCLUDES BIPOD YOKE AND STRUT ASSEMBLIES.

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SECTION IV

OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
01-000	INSPECTION OF ET SHIP-LOOSE HARDWARE	
01-001	ET SHIP-LOOSE HARDWARE	
1.	VERIFY QUANTITIES AND PART NUMBERS IN EACH SHIP-LOOSE KIT USING SHIP-LOOSE ITEM LIST SUPPLIED WITH THE ACCEPTANCE DATA PACK.	SPC 476 QV: MAR 24 '01
2.	ON ACCEPTANCE DATA PACKAGE, CHECK INDEX VS ACTUAL CONTENTS, OPEN WORK AND OUT OF SPECIFICATION CONDITIONS - CONTACT ETM ENGINEERING IF ANY PROBLEMS EXIST.	SPC 476 QV: MAR 27 '01
3.	ON THE TWO BOXES CONTAINING THE FAIRINGS ASSEMBLIES, PART NO. 80971009442, DO NOT OPEN, BUT INSPECT THE EXTERIORS OF THESE BOXES FOR EVIDENCE OF PUNCTURES, CUTS AND OTHER DAMAGE. SHOULD DAMAGE BE FOUND, OPEN THE BOX(ES) FOR AN INSPECTION OF THE FAIRING(S).	SPC 476 QW: MAR 27 '01
4.	INSPECT ALL HARDWARE FOR DAMAGE AND CONTAMINATION.	SPC 476 QW: MAR 27 '01
5.	PRIOR TO INSPECTION OF THE BIPOD YOKE AND STRUT ASSEMBLIES, VERIFY FOLLOWING PERSONNEL PRESENT: SFOC ET MECHANICAL SYSTEM ENGINEER	SPC 476 QW: MAR 13 '01

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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
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01-001
CON'T

CAUTION

DURING NEXT STEP, EXTREME CARE SHOULD BE EXERCISED DURING HANDLING OF YOKE ASSEMBLY. THE RUBBER STOP SHALL BE IN PLACE BETWEEN THE SWIVEL ASSY AND THE TITANIUM HALF PRIOR TO MOVING THE YOKE ASSY. BLACK RUBBER STOP SHOULD BE IN PLACE TO PREVENT DAMAGE.

NOTE

SHOULD ANY METAL SURFACE DEFECTS BE FOUND ON THE BIPOD YOKE OR STRUT ASSEMBLIES SUCH AS SCRATCHES, GOUGES, OR DINGS, MOLD IMPRESSIONS MAY BE TAKEN PER OMI T5042.010

5. INSPECT THE 80911009190 ET BIPOD YOKE ASSEMBLY FOR SCRATCHES, RAISED METAL, DINGS AND OTHER DAMAGE PAYING CLOSE ATTENTION TO THE CLEVIS AND FLANGE AREAS. USE A STAEDTLER LUMOCOLOR MARKER NO. 317 TO MARK A SOLID LINE ON THE FLANGE EDGE ABOVE A BOLT HOLE AS A TWELVE O'CLOCK REFERENCE POINT. MAP ALL DISCREPANCIES FOUND ON THE FLANGE ENDS AND RECORD ON APPENDIX D AND ATTACH THIS TO THE APPENDIX C OBSERVATION WORKSHEET FOR REVIEW BY ENGINEERING. COPIES OF APPENDIX C AND D MUST BE PLACED IN THE BIPOD YOKE BOX PRIOR TO CLOSURE. APPLY INTEGRITY SEALS TO BOX LID AFTER CLOSURE. COPIES OF APPENDIX C AND D MAY BE ADDED AS NEEDED. REF APPENDIX B FOR ADDITIONAL CRITERIA.

QW:  MAR 13 '01

DATE: 06-28-00

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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
01-001 CON'T	CAUTION EXTREME CARE MUST BE USED WHEN HANDLING THE BIPOD STRUTS TO PREVENT DAMAGE TO THE TPS AND FLANGE ENDS.	
6.	ON THE TWO BOXES CONTAINING THE BIPOD STRUT ASSEMBLIES, PART NO. 809011009190-500 AND -509, DO NOT OPEN, BUT INSPECT THE EXTERIORS OF THESE BOXES FOR EVIDENCE OF PUNCTURES, CUTS AND OTHER DAMAGE. SHOULD DAMAGE BE FOUND, OPEN THE BOX FOR AN INSPECTION OF THAT STRUT FOR ANY SHIPPING/HANDLING DAMAGE AND RECORD ANY FINDINGS.	
	-500 STRUT	SPC 476 QW: MAR 27 '01
	-509 STRUT	SPC 476 QW: MAR 27 '01
7.	INSPECT ELECTRICAL BOND JUMPERS FOR DAMAGE.	SPC 476 QW: MAR 27 '01
8.	ATTACH A COPY OF DD-250 (SHIP-LOOSE ITEMS LIST) TO OMI RECORD COPY.	SPC 476 QW: MAR 27 '01
01-002	ROUTE THE ACCEPTANCE DATA PACK ALONG WITH THE DD-250 FORM TO THE TAIR STATION LOCATED IN THE VAB. FROM THERE, FILL OUT A ROUTING SLIP TO SEND THE DATA PACK TO SFOC-CMO AT COMPLEX "F", ROOM 1050.	SPC 476 QW: APR 16 '01

DATE: 06-28-00

SEQ	DESCRIPTION	VERIF.
01-003	IF ANY ARE WRITTEN, VERIFY ALL OBSERVATION WORKSHEETS AGAINST THIS SEQUENCE HAVE BEEN COMPLETED. VERIFY THE NECESSARY PR/DR'S HAVE BEEN WRITTEN AND BLOCK NO. 20 ON ALL PR'S COMPLETED BY ENGINEERING. RECORD BELOW ALL APPENDIX C WORKSHEET NUMBERS. <i>04, 05 LAST ITEM</i>	<i>N/A</i>
	NOT PERFORMED	

NOT PERFORMED



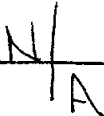

QV: 476 APR 16 '01

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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
02-000	LEVEL 1 (XT2175 TO XT2112) INSPECTION	
02-001	TPS INSPECTION INSPECT TPS IN FOLLOWING AREAS FOR DAMAGE: 1. LH2 AFT DOME TPS ACREAGE 2. LH2 FEEDLINE SCREEN ACCESS MANHOLE COVER 3. LH2 TANK ACCESS MANHOLE COVER 4. LH2 RECIRCULATION LINE	 QW: _____ FEB 27 '08  QW: _____ FEB 27 '08
02-002	INSPECT TPS AREAS FOR FOAM NODULES. LIST THOSE THAT EXCEED 0.25 OF AN INCH IN HEIGHT IN APPENDIX "C".	
02-003	IF ANY ARE WRITTEN, VERIFY ALL OBSERVATION WORKSHEETS AGAINST THIS SEQUENCE HAVE BEEN COMPLETED. VERIFY THE NECESSARY PR/DR'S HAVE BEEN WRITTEN AND BLOCK NO. 20 ON ALL PR'S COMPLETED BY ENGINEERING. RECORD BELOW ALL APPENDIX C WORKSHEET NUMBERS. <div style="text-align: center;">  </div>	 FEB 27 '08 NOT PERFORMED QW: <u>N/A</u>

FEB 27 '08

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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
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REV. - AD

OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
03-000	LEVEL 2 (XT2112 TO XT1860) INSPECTION	
03-001	POSITION ACCESS EQUIPMENT AS REQUIRED BY QUALITY INSPECTORS TO SUPPORT THIS SEQUENCE.	
03-002	INSPECT THE ET/ORBITER LH2 AND L02 FEEDLINE ATTACH POINTS AND VERIFY THEY ARE FREE OF DAMAGE AND DEBRIS (EXPOSED AREAS ONLY). DO NOT REMOVE COVERS.	<div style="text-align: right;">  T: _____ FEB 27 '02 </div>
		<div style="text-align: right;"> EO-4 (LH2) <div style="display: flex; align-items: center;"> QW: _____ <div style="margin-left: 10px;">  </div> </div> FEB 27 '02 </div>
		<div style="text-align: right;"> EO-5 (L02) <div style="display: flex; align-items: center;"> QW: _____ <div style="margin-left: 10px;">  </div> </div> FEB 27 '02 </div>
03-003	L02/LH2 UMBILICAL CABLE TRAY PURGE OUTLET INSPECT L02 AND LH2 UMBILICAL CABLE TRAY PURGE OUTLET FOR DAMAGE AND DEBRIS/BLOCKAGE (REF DWG 80900000041).	<div style="text-align: right;"> L02 <div style="display: flex; align-items: center;"> QW: _____ <div style="margin-left: 10px;">  </div> </div> FEB 27 '02 </div> <div style="text-align: right;"> LH2 <div style="display: flex; align-items: center;"> QW: _____ <div style="margin-left: 10px;">  </div> </div> FEB 27 '02 </div>

FEB 27 '02



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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
03-004	LH2 FEEDLINE, BELLOWS AND BURST DISC (XT2080) (INSPECT ONLY EXPOSED PARTS NOT COVERED BY TPS)	
1.	REMOVE PROTECTIVE COVER FROM LH2 FEEDLINE BURST DISC. DO NOT DISCARD COVER.	T: _____ 2/27/01
2.	INSPECT AND VERIFY LH2 FEEDLINE AND BELLOWS ARE FREE OF DAMAGE AND DEBRIS.	SPC 113 QW: _____ FEB 27 '01
3.	INSPECT AND VERIFY FEEDLINE BURST DISC IS FREE OF EVIDENCE OF PUNCTURE/RUPTURE.	SPC 113 QW: _____ FEB 27 '01
4.	INSTALL PREVIOUSLY REMOVED PROTECTIVE COVER ON BURST DISC AND ATTACH PREVIOUSLY REMOVED RED STREAMER TO BURST DISC COVER. SECURE WITH 932000K84495 TAPE.	T: _____ 2/27/01
5.	INSPECT AND VERIFY LH2 FEEDLINE BELLOWS DRAIN HOLES (3) ARE FREE OF DEBRIS/BLOCKAGE (SEE FIGURE 3).	SPC 113 QW: _____ FEB 27 '01
6.	INSPECT THE VISUAL HYDROGEN FIRE DETECTION PAPER (BUTCHER PAPER) INSTALLED IN SIX LOCATIONS IN THE LH2 FEEDLINE/THRUST STRUT AREAS FOR EVIDENCE OF DAMAGE OR DEBONDING. SEE FIGURE 8.	SPC 113 QW: _____ FEB 27 '01

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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
03-005	LH2 RECIRCULATION LINE (XT2058)	
1.	INSPECT AND VERIFY LH2 RECIRCULATION LINE AND BELLOWS ARE FREE OF DAMAGE AND DEBRIS (EXPOSED METAL ONLY).	 QW: _____ FEB 27 '08
2.	INSPECT AND VERIFY LH2 RECIRCULATION LINE BURST DISCS ARE FREE OF DEBRIS AND NO EVIDENCE OF PUNCTURE/RUPTURE.	
	-Z END (NEAREST AFT DOME)	 QW: _____ FEB 27 '08
	+Z END (NEAREST UMBILICAL)	 QW: _____ FEB 27 '08
03-006	AFT INTERFACE VERTICAL STRUT (XT2058)	
	INSPECT AND VERIFY STRUT, CABLE TRAYS AND FAIRINGS ARE FREE OF DAMAGE.	
	+Y SIDE	 QW: _____ FEB 27 '08
	-Y SIDE	 QW: _____ FEB 27 '08
03-007	GH2 PRESSURIZATION LINE (EXPOSED METAL ONLY) (SEE FIGURE 6).	
	INSPECT FOR SURFACE DAMAGE, DINGS, DENTS, CORROSION AND CONTAMINATION, GREASE AND MISSING HARDWARE.	 QW: _____ FEB 27 '08

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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
03-008	GH2 PRESSURIZATION LINE (EXPOSED METAL ONLY) (SEE FIGURE 6). INSPECT GH2 PRESSURIZATION LINE FAIRING ON AFT INTERFACE CROSSBEAM FOR SURFACE DAMAGE, DINGS, DENTS AND CORROSION ON -Y AND +Y ENDS (REF DWG 80971008452).	 QW: _____ FEB 27 '01
03-009	G02 PRESSURIZATION LINE (EXPOSED METAL ONLY) (SEE FIGURE 7). INSPECT FOR SURFACE DAMAGE, DINGS, DENTS, CORROSION AND MISSING HARDWARE.	 QW: _____ FEB 27 '01
03-010	L02 FEEDLINE BELLOWS AREA (XT1990 AND XT2020)(EXPOSED METAL ONLY). INSPECT FOR SURFACE DAMAGE AND VERIFY BELLOWS AREA IS FREE OF DEBRIS.	 QW: _____ FEB 27 '01

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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
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03-011 ET/SRB INTERFACE CABLING (XT2058)


1. INSPECT HARNESS FOR SECURITY AND OBVIOUS DAMAGE AT INTERFACES (REF APPENDIX B). INSPECT ONLY EXPOSED PARTS NOT COVERED BY TPS.

+Y SIDE

QW: 


FEB 27 '01

-Y SIDE

QW: 
FEB 27 '01


2. USING TIE WRAPS, TIE CABLE ASSEMBLIES TO PROTECTIVE BOARD.

+Y SIDE

T: 

FEB 27 '01

-Y SIDE

T: 

FEB 27 '01

03-012 INSPECT AND VERIFY AFT HARDPOINT SURFACE AREA FREE OF NICKS, GOUGES, SCRATCHES, GREASE, AND FOREIGN MATERIAL.








QW: 

FEB 27 '01

DATE: 06-28-00

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REV. - AD








OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
03-013	TPS INSPECTION (XT2112 TO XT1860)	
	VISUALLY VERIFY TPS IN FOLLOWING AREAS ARE FREE OF DAMAGE:	
1.	LH2 AFT DOME TPS ACREAGE (XT2112 TO XT2058)	 FEB 27 01 QW: _____
2.	LH2 TANK BARREL TPS ACREAGE (XT2058 TO XT1860)	 QW: _____
3.	AFT ET/ORB INTERFACE CROSS BEAM AND CABLE TRAY	 FEB 27 01 QW: _____
4.	-Y VERTICAL STRUT AND CABLE TRAY (SEE FIGURE 4) -Y THRUST STRUT (SEE FIGURE 5)	 QW: _____
5.	-Y ET/SRB CABLE TRAY (SEE FIGURE 4) +Y ET/SRB CABLE TRAY	 QW: _____
6.	DIAGONAL STRUT (SEE FIGURE 4)	 QW: _____
7.	+Y VERTICAL STRUT AND CABLE TRAY (SEE FIGURE 4) +Y THRUST STRUT (SEE FIGURE 5)	 QW: _____

DATE: 06-28-00

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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
03-013 CON'T	8. L02 FEEDLINE AND FEEDLINE BRACKETS	 QW: _____ FEB 27 '01
	9. LH2 FEEDLINE	 QW: _____ FEB 27 '01
	10. LH2 RECIRCULATION LINE	 QW: _____ FEB 27 '01
	11. ICE FROST RAMPS L02 UMBILICAL AND CABLE TRAY	 QW: _____ FEB 27 '01
	12. LH2 UMBILICAL AND CABLE TRAY	 QW: _____ FEB 27 '01
	13. LH2 TANK CABLE TRAY	 QW: _____ FEB 27 '01
03-014	INSPECT TPS AREAS FOR FOAM NODULES. LIST THOSE THAT EXCEED 0.25 OF AN INCH IN HEIGHT IN APPENDIX "C".	 QW: _____ FEB 27 '01
03-015	IF ANY ARE WRITTEN, VERIFY ALL OBSERVATION WORKSHEETS AGAINST THIS SEQUENCE HAVE BEEN COMPLETED. VERIFY THE NECESSARY PR/DR'S HAVE BEEN WRITTEN AND BLOCK NO. 20 ON ALL PR'S COMPLETED BY ENGINEERING. RECORD BELOW ALL APPENDIX C WORKSHEET NUMBERS.	FEB 27 '01 <u># 2 AND #3</u>

NOT PERFORMED

N/A

QV: 

FEB 27 '01


 ERROR

①

31

MAR 27 '01



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REV. - AD

DATE: 06-28-00

OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.


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OPERATION INSTRUCTIONS


SEQ	DESCRIPTION	VERIF.
04-000	LEVEL 6 (XT1048 TO XT829) INSPECTION	
04-001	POSITION ACCESS EQUIPMENT AS REQUIRED BY QUALITY INSPECTORS TO SUPPORT THIS SEQUENCE.	

T: 
FEB 27 '01

NOTE

LH2 VENT/RELIEF VALVE SENSE PORT IS LOCATED ON LEVEL 5. ACCESS TO THIS AREA CAN BE FROM LEVEL 6 FOR REMOVAL OF PROTECTIVE MATERIAL AND INSPECTION.


04-002 LH2 VENT/RELIEF VALVE SENSE PORT (XT1075 AT 185 DEG).
INSPECT AND VERIFY SENSE PORT HEAD IS FREE OF DEBRIS, CONTAMINATION AND DAMAGE (REF DWG 8090000041).


QW: 
FEB 27 '01

04-003 ET INTERTANK (EXTERIOR)

INSPECT AND VERIFY FOLLOWING SURFACES FREE OF SURFACE DAMAGE, DINGS, DENTS, CORROSION, AND CONTAMINATION. VERIFY NO LOOSE OR MISSING HARDWARE (ONLY EXPOSED PARTS NOT COVERED BY TPS).

1. L02 TANK CABLE TRAY FAIRING AT INTERTANK ENTRY
2. L02 FEEDLINE FAIRING
3. G02 PRESSURIZATION LINE

QW: 
FEB 27 '01

FEB 27 '01


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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
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NOTE

REFERENCE APPENDIX B BEFORE
PERFORMING FOLLOWING STEP.

04-004 ET/SRB FORWARD ATTACH POINTS

1. INSPECT ET THRUST FITTING INSERT FOR RAISED METAL, FOREIGN MATERIAL AND SURFACE DEFECTS. DEFECTS LESS THAN 0.003 INCH DEEP ARE ACCEPTABLE. NO RAISED METAL IS ACCEPTABLE.



QW: _____

FEB 27 '01

2. INSPECT FORWARD ET/SRB ATTACH FITTINGS FOR SURFACE DAMAGE, SCRATCHES, DINGS, PRIMER IN THE LOWER BORE AREAS, CORROSION AND CONTAMINATION.



QW: _____

FEB 27 '01

NOTE

PERFORM NEXT TWO STEPS
IF REQUIRED TO DETERMINE
DIMENSIONS OF SURFACE
DEFECT(S).

3. MAKE IMPRESSIONS AND IDENTIFY LOCATION(S) OF DEFECT(S) PER OMI T5042.010, MOLD IMPRESSION MATERIAL APPLICATION. ROUTE TO QUALITY INSPECTION FOR ANALYSIS.

0700 ① FEB 27 '01
T ERROR

EB-1 0700 ①
FEB 27 '01
NOT PERFORMED
①
TQW: N/A

EB-2 0700 ①
FEB 27 '01
NOT PERFORMED
①
TQW: N/A

FEB 27 '01



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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
04-004 CON'T	4. PERFORM ANALYSIS OF MOLD IMPRESSIONS. VERIFY DEFECT(S) HAVE A DEPTH OF LESS THAN 0.003 INCH.	
EB-1	ACCEPT <u>N/A</u> REJECT <u>N/A</u>	NOT PERFORMED FEB 27 01
EB-2	ACCEPT <u>N/A</u> REJECT <u>N/A</u>	NOT PERFORMED FEB 27 01
		QW: <u>N/A</u>
	5. INSPECT AND VERIFY ET/SRB FORWARD FITTINGS ARE FREE OF RAISED METAL, FOREIGN MATERIAL AND SURFACE DEFECTS GREATER THAN 0.003 INCH DEPTH.	
	OMRS S00HB0.150-A (EB-1) OMRS S00HB0.150-B (EB-2)	EB-1 QW: _____ FEB 27 01
		EB-2 QW: _____ FEB 27 01
	6. AT EB-1 (-Y), INSTALL COVER ASSY., PART NO. TSA-558 ON THE EB. ATTACH THE VELCRO STRAP AROUND THE EB AND TO THE BACK OF THE COVER. RECORD SERIAL NO. OF THE COVER INSTALLED AND MAKE AN ENTRY INTO THE ET TIR LOG SHOWING THE COVER AS TEMPORARILY INSTALLED. ANNOTATE IN THE LOG THAT THE COVER WILL BE REMOVED PER OMI S-5010.	
	SERIAL NO. <u>03</u> TIR LOG NO. <u>008</u>	T: _____ FEB 27 01

0700 SPC 108

DATE: 06-28-00









OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
04-004 CON'T	7. AT EB-2 (+Y), INSTALL COVER ASSY., PART NO. TSA-558 ON THE EB. ATTACH THE VELCROP STRAP AROUND THE EB AND TO THE BACK OF THE COVER. RECORD SERIAL NO. OF THE COVER INSTALLED AND MAKE AN ENTRY INTO THE ET TIR LOG SHOWING THE COVER AS TEMPORARILY INSTALLED. ANNOTATE IN THE LOG THAT THE COVER WILL BE REMOVED PER OMI S-5010.	
	SERIAL NO. <u>03</u> TIR LOG NO. <u>009</u>	T:  2-27-01
04-005	ET INTERTANK (EXTERIOR) INSPECT EXPOSED PORTION OF HARNESS IS FREE OF CONNECTOR DAMAGE AND CABLE HARNESS DAMAGE (REFERENCE APPENDIX B).	
	+Y SIDE FEB 27 '01	QW: 
	-Y SIDE FEB 27 '01	QW: 
04-006	UMBILICAL CARRIER INSTALLATION (-Y/-Z) VISUALLY INSPECT ET CARRIER PANEL FOR OBVIOUS DAMAGE SUCH AS DENTS AND CORROSION. VERIFY NO MISSING HARDWARE. VERIFY PROTECTIVE CAPS INSTALLED.	
		QW:  FEB 27 '01
04-007	TPS INSPECTION - EXTERNAL (XT1048 TO XT829) INSPECT TPS IN FOLLOWING AREAS FOR DAMAGE. DOCUMENT DISCREPANCIES IN ACCORDANCE WITH APPENDIX C.	
	1. INTERTANK TPS ACREAGE (XT1048 TO XT852)	QW:  FEB 27 '01
	2. L02 TANK BARREL TPS ACREAGE (XT852 TO XT829)	QW: 

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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
04-007 CON'T	3. L02 FEEDLINE AND FAIRING	 QW: _____ FEB 27 '01
	4. L02 TANK CABLE TRAY AND I/T FAIRING	 QW: _____ FEB 27 '01
	5. L02 TANK CABLE TRAY PAL RAMP	 QW: _____ FEB 27 '01
	6. L02 TO INTERTANK SPLICE	 QW: _____ FEB 27 '01
	7. PRESSLINE BRACKETS	 QW: _____ FEB 27 '01
	8. ICE/FROST RAMPS	 QW: _____ FEB 27 '01
	9. GH2 PRESSLINE FAIRING	 QW: _____ FEB 27 '01
04-008	INSPECT FLIGHT DOOR FOR THE FOLLOWING:	
	1. SCRATCHES OR CUTS DO NOT EXTEND TO FIBERS.	
	2. THERE IS NO VISUAL EVIDENCE OF DELAMINATION.	
	3. THERE ARE NO FRAYED SURFACES.	
	4. THERE IS NO VISUAL INDICATION OF CRACKS OR BROKEN FIBERS.	 QW: _____ FEB 27 '01

DATE: 06-28-00

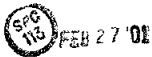
OMI NO. - T6149
REV. - AD

OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
04-009	IF ANY ARE WRITTEN, VERIFY ALL OBSERVATION WORKSHEETS AGAINST THIS SEQUENCE HAVE BEEN COMPLETED. VERIFY THE NECESSARY PR/DR'S HAVE BEEN WRITTEN AND BLOCK NO. 20 ON ALL PR'S COMPLETED BY ENGINEERING. RECORD BELOW ALL APPENDIX C WORKSHEET NUMBERS. <u># 01</u>	

NOT PERFORMED

① ERROR



N/A
QV:




8-11-01



DATE: 06-28-00

OMI NO. - T6149
REV. - AD

OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
05-000	LEVEL 7 (XT829 TO XT589) INSPECTION	
05-001	FROM THE FIXED STAND ON THIS LEVEL, AS ACCESS PERMITS, INSPECT THE FOLLOWING LISTED ITEMS FOR VISUAL DAMAGE. BINOCULARS MAY BE USED AS NEEDED.	
	1. L02 TANK/OGIVE TPS ACREAGE. STA XT 589 TO 829.	
	2. G02 PRESS LINE	
	3. CABLE TRAY PAL AND ICE/FROST RAMPS.	
05-002	INSPECT TPS AREAS FOR FOAM NODULES. LIST THOSE THAT EXCEED 0.25 OF AN INCH IN HEIGHT IN APPENDIX "C".	<div style="text-align: right;">  QW: _____ FEB 27 '01 </div>
05-003	IF ANY ARE WRITTEN, VERIFY ALL OBSERVATION WORKSHEETS AGAINST THIS SEQUENCE HAVE BEEN COMPLETED. VERIFY THE NECESSARY PR/DR'S HAVE BEEN WRITTEN AND BLOCK NO. 20 ON ALL PR'S COMPLETED BY ENGINEERING. RECORD BELOW ALL APPENDIX C WORKSHEET NUMBERS.	<div style="text-align: right;"> FEB 27 '01  (1) N/A QV: N/A </div>
	<div style="text-align: center;">  (1) VOID ERROR FEB 27 '01 </div>	<div style="text-align: center;"> NOT PERFORMED </div>

FEB 27 '01

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
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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
06-000	LEVEL 9 (XT373 TO XT322.5 NOSE CAP) INSPECTION	
06-001	NOSE CONE AREA EXTERNAL SURFACES INSPECT NOSE CONE AREAS FOR SURFACE DAMAGE, DINGS AND DENTS. 1. CABLE TRAY FAIRING 2. VENT LOUVERS +Y/-Z SIDE ANDY/+Z SIDE 3. LIGHTNING ROD SPIKE	QW: 
06-002	INSPECT THE COMPOSITE MATERIAL ON NOSE CONE FOR THE BELOW LISTED CRITERIA: 1. SCRATCHES OR CUTS DO NOT EXTEND TO FIBERS. 2. THERE IS NO VISUAL EVIDENCE OF DELAMINATION. 3. THERE ARE NO FRAYED SURFACES. 4. THERE IS NO VISUAL INDICATION OF CRACKS OR BROKEN FIBERS.	FEB 27 '01 QW: 
06-003	INSPECT THE TPS ON THE L02 OGIVE AREA, FROM STA. XT371 TO XT391) FOR OBVIOUS DAMAGE. INSPECT THE TOPCOAT PAINT IN THE G02 VENT SEAL FOOTPRINT AREAS FOR ANY MISSING OR PEELING PAINT AND IT IS FREE OF RUNS AND DRIPS. VERIFY THE TOPCOAT DOES NOT OBSCURE THE SURFACE TEXTURE OF THE UNDERLYING TPS. BRUSH MARKS ARE ACCEPTABLE. AN ADJACENT COAT MAY OVERLAP A PREVIOUS APPLIED COAT UP TO 0.25 INCH MAXIMUM. ANY AREA OF CURED TOPCOAT THAT TOTALLY OBSCURES THE SURFACE TEXTURE OF THE UNDERLYING TPS IS UNACCEPTABLE.	FEB 27 '01 QW: 
06-004	PD4800180-009 G02 PRESSURIZATION LINE INSPECT PRESS LINE FOR DAMAGE, DINGS, DENTS, CORROSION, WELD CRACKS AND CONTAMINATION. VERIFY NO MISSING HARDWARE (XT371.0).	FEB 27 '01 QW: 

FEB 27 '01

DATE: 06-28-00

OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
06-005	IF ANY ARE WRITTEN, VERIFY ALL OBSERVATION WORKSHEETS AGAINST THIS SEQUENCE HAVE BEEN COMPLETED. VERIFY THE NECESSARY PR/DR'S HAVE BEEN WRITTEN AND BLOCK NO. 20 ON ALL PR'S COMPLETED BY ENGINEERING. RECORD BELOW ALL APPENDIX C WORKSHEET NUMBERS.	
	N/A	

NOT PERFORMED

FEB 27 '01

QV: N/A

FEB 27 '01


FEB 27 '01

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OPERATION INSTRUCTIONS

SEQ	DESCRIPTION	VERIF.
07-000	TRANSFER STREAMER/TIR ITEMS/ANOMALY CHECKS	
07-001	TRANSFER TIR/STREAMER ITEMS FROM MMC ADP TO APPROPRIATE TIR BOOK AND VERIFY STREAMER NUMBERS PER ADP.	
07-002	RECORD BELOW THE TOTAL NUMBER OF WORKSHEETS WRITTEN IN APPENDIX C.	
	NO. OBSERVATION WORKSHEETS WRITTEN <u>5</u>	

① TQV: 

3-13-01

QW: 

6-01-01

① Delete 'QV':
 3-13-01



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OPERATION INSTRUCTIONS

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APPENDIX A

TPS SURFACE INSPECTION

1. DEFINITIONS OF TERMINOLOGY

CHIP - MATERIAL LOSS THAT OCCURS AT EDGE OR CORNER OF A COMPONENT.

CRACK - BREAK IN TPS WHICH DOES NOT EXHIBIT MATERIAL LOSS. IT CHARACTERISTICALLY IS PERPENDICULAR TO THE SUBSTRATE AND EXHIBITS LENGTH AND DEPTH. A CRACK IS NOT TO BE CONFUSED WITH A DELAMINATION WHICH CHARACTERISTICALLY IS PARALLEL, OR AT A SLIGHT ANGLE, TO THE SUBSTRATE.

CRUSHED FOAM - FOAM IN WHICH THE CELL WALLS OR RIBS ARE RUPTURED. IT IS MECHANICAL DAMAGE CAUSED BY COMPRESSIVE FORCE E.G., A SHARP BLOW OR REPETITIVE PRESSURE. CRUSHED FOAM IS OFTEN ERRONEOUSLY CALLED SOFT FOAM. SEE SOFT FOAM.

CUT - A SMOOTH INCISED LINE WHICH PENETRATES THE SURFACE OF THE MATERIAL.

DEBOND - THE SEPARATION OF MATERIAL FROM THE SUBSTRATE; E.G., A PRIMER OR ADHESIVE FAILURE RESULTING IN THE SEPARATION OF MATERIAL FROM THE SUBSTRATE.

DELAMINATION - THE SEPARATION WITHIN THE MATERIAL ALONG LAYER LINES THAT ARE EITHER PARALLEL, OR AT A SLIGHT ANGLE, TO THE SUBSTRATE.

DIVOT - A PIECE OF MATERIAL DISLOGED FROM THE SURFACE RESULTING IN A CAVITY. TO AGREE WITH CURRENT ENGINEERING USAGE, THE CAVITY SHALL BE REFERRED TO AS THE DIVOT.

GAP - A SPACE LEFT, EITHER BY DESIGN OR ERROR, ADJACENT TO A COMPONENT OR PANEL UPON ASSEMBLY.

GOUGE - AN ELONGATED LOSS OF SURFACE MATERIAL.

OVERSPRAY - TPS/PAINT NOT PERMITTED ON MATING SURFACES WHERE HARDWARE IS TO BE MOUNTED.

ROUGHNESS - THE NON-UNIFORM TEXTURE OF THE AS-FORMED SURFACE PRIOR TO MACHINING.

SCRATCH - A NARROW LINE THAT BREAKS THE SURFACE OF THE MATERIAL; IT IS CHARACTERIZED BY ROUGH EDGES AND A BURR MAY BE RAISED ON EITHER SIDE.

RUN - A RUN IS AN EXCESS OF MATERIAL THAT MIGRATES ACROSS A SURFACE DUE TO GRAVITY.

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APPENDIX A

SOFT FOAM - CHARACTERIZED BY A SPONGY FEEL AND POSSIBLY LIGHTER COLOR. IT IS CAUSED BY IMPROPER APPLICATION OR EQUIPMENT MALFUNCTION E.G., OFF-RATIO, POOR MIXING, ETC.; IT OFTEN RESULTS IN LOW DENSITY.

NOTE

SOFT FOAM IS NOT SUBJECT
TO POST-BUILD ACCEPTANCE
OR REJECTION.

VOID - AN UNFILLED SPACE WHICH IS SUBSTANTIALLY LARGER THAN AN INDIVIDUAL MATERIAL CELL AND MAY OCCUR ON THE SURFACE OR INTERNALLY TO THE MATERIAL.

WAVINESS - REFERS TO THE REPETITIVE PATTERN OF PARALLEL PEAKS AND VALLEYS THAT RESULT FROM THE AUTOMATED SPRAY PROCESS (SEE ROUGHNESS).

2. TPS INSPECTION CRITERIA

INSPECTION OF TPS ON ET WILL BE FOR EVIDENCE OF THE ABOVE DEFINED DEFECTS AS WELL AS FREEDOM FROM CONTAMINATION BY FOREIGN MATERIALS/GREASE. INSPECTION WILL BE VISUAL ONLY.

MOST OF THE DESCRIBED DEFECTS DO HAVE SOME LEVEL OF ACCEPTABILITY. THE CRITERIA BY WHICH THEY ARE ACCEPTABLE IS DEFINED IN DWG 80901019010, TPS POST BUILD/ASSEMBLY ACCEPTANCE MANUAL - OFFSITE. INSURE THERE ARE ADEQUATE DESCRIPTIONS OF THE DISCREPANCY (I.E., TYPE, SIZE, DEPTH, ETC.) AND LOCATION (I.E., STATION LOCATION, CIRCUMFERENTIAL LOCATION, ETC.). DISCREPANCIES FOUND REQUIRING EVALUATION PER DRAWINGS, SPECIFICATIONS AND OMRS WILL BE ANNOTATED ON AN OBSERVATION WORKSHEET IN APPENDIX C. SFOC SYSTEM ENGINEERING WILL ASSIST IN THE EVALUATION PROCESS. DISCREPANCIES FOUND TO BE ACCEPTABLE WILL BE ANNOTATED ON THE OBSERVATION WORKSHEET. ALL NON-CONFORMANCES WILL BE DOCUMENTED PER SPI QA-000(3)KV BY QUALITY ASSURANCE.

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APPENDIX B

INSPECTION CRITERIA AND DEFINITIONS

THE FOLLOWING CRITERIA AND DEFINITION ARE PROVIDED TO ENSURE ADEQUATE INSTRUCTIONS AND ARE AVAILABLE TO PERFORM RECEIVING INSPECTION OF THE VEHICLE.

GENERAL

1. VISUALLY CLEAN (VC) - LACK OF DEBRIS/PARTICULATE AS SEEN BY THE UNAIDED EYE WITH A NORMAL WHITE LIGHT.
2. SECURITY - PHYSICALLY SECURE WITH NO INDICATION OF LOOSENESS OF HARDWARE. (A LIGHT PRESSURE MAY BE APPLIED BY HAND TO VERIFY SECURITY)
3. DING/DENT - IMPRESSION SEEN BY THE UNAIDED EYE.

CONNECTORS/CABLE HARNESS/BUNDLES

1. CONNECTOR DAMAGE - BENT/MISALIGNED PINS, VISIBLE SCRATCHES CONTAMINANT DEPOSITS, WORN LOCKING DEVICES, DAMAGED INSERTS, DAMAGED O-RINGS AND BENT SHELLS.

NOTE

IF DEFECTS ARE NOTED DURING INSPECTION, A 10X MAGNIFICATION SHALL BE USED FOR A CLOSER INSPECTION.

2. CONNECTOR PROTECTION - DISCONNECTED ELECTRICAL CONNECTORS SHALL BE CAPPED OR BAGGED.
3. WIRE HARNESS/BUNDLES FRAYED OR CRACKED.

EXPOSED ALUMINUM AND TITANIUM SURFACES

SURFACE DEFECTS, E.G. SCRATCHES, NICKS, PITS, GOUGES, AND DENTS FOUND ON ALUMINUM AND TITANIUM SURFACES SHALL BE EVALUATED PER DWG 80901019010, SECT 6.4. ACCEPTANCE CRITERIA FOR SURFACE DEFECTS.

DATE: 06-28-00

APPENDIX B

SURFACE ANOMALY EVALUATION

IF A SURFACE ANOMALY IS DISCOVERED AND DIMENSION CANNOT BE VISUALLY EVALUATED, IMPRESSION SHALL BE OBTAINED BY INSPECTION PERSONNEL USING VINYL POLYSILOXANE IMPRESSION TYPE MATERIAL. IMPRESSION SHALL BE EVALUATED BY (231) CERTIFIED PERSONNEL. ANOMALY DESCRIPTION, LOCATION AND EVALUATION SHALL BE RECORDED ON KSC FROM 29-216NS IMPRESSION EVALUATION RECORD AND ENTERED AS ATTACHMENT TO KSC INSPECTION RECORD. A PROBLEM REPORT SHALL BE GENERATED ONLY IF EVALUATED DIMENSION EXCEEDS REQUIREMENT OF THIS OMI.

DATE: 06-28-00

OMI NO. - T6149

REV. - AD

APPENDIX C

OBSERVATION WORKSHEET

NUMBER

DESCRIPTION

01 EB1 AND EB2 ANTI-ROTATIONAL
BOLT HOLES HAVE CONTAMINANT
DEPOSITS (I.E. RUST RESIDUE)
INSIDE HOLES

LEVEL/LOCATION: C LEVEL (6)REPORTED BY: A.C. Dalton DATE: 2-27-01

ENGINEERING EVALUATION RESULTS

WRITE DR FOR
EB-1 AND EB-2 TO
CLEAN OUT BOLT HOLES.

PART NO. 8091300632-001NEXT HIGHER ASSEMBLY N/APR/DR IF REQUIRED ET-093-ST-0001 DATE 02-28-01SFQC-SE R Bruwer

TTL:



3-15-01



49

3-15-01

DATE: 06-28-00

APPENDIX C

OBSERVATION WORKSHEET

NUMBER

DESCRIPTION

02

LO2 pyro-technic (17 in) bolt
cavity (top left) inboard
bolt NOT TORQUED (hose)
(Location A4)

LEVEL/LOCATION: E LEVEL (6)

REPORTED BY: A.C. Dalton DATE: 2-28-01

ENGINEERING EVALUATION RESULTS

Write PR on Bolt
NOT Fully TORQUED.

PART NO. _____

NEXT HIGHER ASSEMBLY _____

PR/DR IF REQUIRED

ET-093-EP-001

DATE 02-28-01

SFOC-SE

R Brewer 02-28-01 TTL: _____

DATE: 06-28-00

DMI NO. - T6149
REV. - AD

APPENDIX C

OBSERVATION WORKSHEET

NUMBER

DESCRIPTION

LEVEL/LOCATION: _____

REPORTED BY: _____ DATE: _____

ENGINEERING EVALUATION RESULTS

PART NO. _____

NEXT HIGHER ASSEMBLY _____


PR/DR IF REQUIRED _____ DATE _____

SFOC-SE _____ TTL: _____

DATE: 06-28-00

OMI NO. - T6149
REV. - AD

APPENDIX C

OBSERVATION WORKSHEET
-----NUMBER
-----DESCRIPTION
-----03EB 10 CABLE CONNECTIONS
HAVE LOOSE KAPTON
TAPE. (+V SIDE)LEVEL/LOCATION: E LEVEL (2)REPORTED BY: A.C. Dalton DATE: 2-27-01 ENGINEERING EVALUATION RESULTS
-----AT THIS TIME, THE SMALL TAB OF
KAPTON TAPE, IS NO CONCERN.
AFTER THE ET IS MATED TO THE SRB!
OMI-55011, STEP 05-008 WILL BE PERFORMEDPART NO. N/A

NEXT HIGHER ASSEMBLY _____

PR/DR IF REQUIRED N/ADATE 02-28-01SFOC-SE R Brewer

TTL: _____



MAR 27 '01

MAR 27 '01



DATE: 06-28-00

APPENDIX C

OBSERVATION WORKSHEET

NUMBER

04

DESCRIPTION

VARIETIES AND NUMEROUS SURFACE MARKS,
SCRATCHES AND DINGS WHICH WERE NOT
MAPPED UPON AERIAL. NEWLY DOCUMENTED
ARE I.D.'D IN LONGHAND.

LEVEL/LOCATION:

① N/A RECEIVING INSPECTION

REPORTED BY:

H. FEIGLER

DATE: 3/14/01

ENGINEERING EVALUATION RESULTS

MOLD IMPRESSIONS WERE
TAKEN OF THE SCRATCHES
AND DINGS. WHEN EVALUATED,
THESE ITEMS MEET 80901019010 DWG.

PART NO.

Requirements.

N/A

NEXT HIGHER ASSEMBLY

PR/DR IF REQUIRED

N/A

DATE

SFOC-SE

R Brewer

TTL:



4-16-01

4-13-01



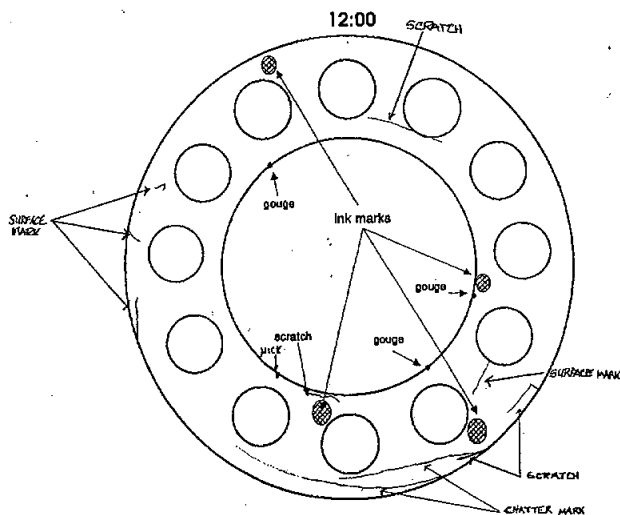
MAR 13 '01



APR 16 '01

ALUMINUM END FITTING
80911009186-002
ET- 93
s/n 0000185

UNDERSIDE OF
YOKE FITTING



DATE: 06-28-00

OMI NO. - T6149
REV. - AD

APPENDIX D

DISCREPANCY MAPPING SHEET - FLANGE ENDS

04-1

① SURFACE MARK
② SCRATCH
③ DING/DENT
④ CHATTER MARK

12 O' CLOCK

9.00

7.30

PART NAME ALUMINUM END
PART NO. 80911009186-002

T6149-A-D

DATE: 06-28-00

OMI NO. - T6149

REV. - AD

APPENDIX C

OBSERVATION WORKSHEET

NUMBER

05

DESCRIPTION

VARIOUS AND NUMEROUS SURFACE MARKS.
 SCRATCHES AND DINGS WHICH WERE NOT
 MAPPED UPON ARRIVAL. NEWLY DOCUMENTED
 ARE ID'D IN LONGHAND.

LEVEL/LOCATION:

① N/A REPAIRING INSPECTION

REPORTED BY:

H. ZEIGLER

DATE: 3/14/01

ENGINEERING EVALUATION RESULTS

MOLD IMPRESSIONS WERE TAKEN OF
 THE SCRATCHES AND DINGS. WHEN
 EVALUATED, THEY MEET THE
 REQUIREMENTS OF Dwg. 809010/9010.

PART NO.

N/A

NEXT HIGHER ASSEMBLY

PR/DR IF REQUIRED

N/A

DATE

SFOC-SE

R Brewer

TTL:



4-16-01

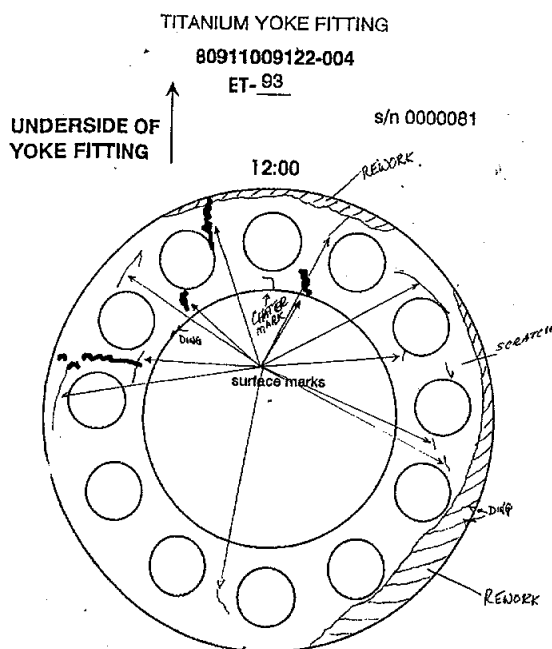
4-13-01



MAR 13 '01



APR 16 '01



DATE: 06-28-00

APPENDIX D

OMI NO. - T6149
REV. - AD

DISCREPANCY MAPPING SHEET - FLANGE ENDS

05-1

① SURFACE MARK
② SCRATCH
③ DING/DENT
④ CHATTER MARK

1-5-96

12 O' CLOCK

REWORK

9.00

7.30

REWORK

PART NAME TITANIUM END
PART NO. 80911009122-004

T6149-A-D

DATE: 06-28-00

APPENDIX D

OMI NO. - T6149
REV. - AD

DISCREPANCY MAPPING SHEET - FLANGE ENDS

1-5-96

12 O' CLOCK

9.00

7.30

PART NAME _____

PART NO. _____

T6149-A-D

OMI NO. - T6149
REV. - AD

DATE: 06-28-00

END OF OMI

NO./REVISION

T-6149 REV AD

EFFECTIVITY

ET 93 E SUBS

PAGE

SEQ/OP-STEP

CHANGE

APPROVAL
QE/ENG.

43

07-001

Delete 'QV' From 'TQV'

6/13/01